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Health

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5 APR 1933

EDITORIAL

PUBLIC HEALTH PROBLEMS IN INDIA.*

I. INFANT, MATERNITY AND CHILD-WELFARE WORK.

In these days of world depression and deficit budgets, public health work everywhere is slow, if not stagnant, and India is no exception to this. There have been retrenchment of staff and ruthless curtailment of expenditure under this head during the past three years both in the centre and in the provinces, so much so that no advance in public health work was possible.

The first and foremost health problem that is now agitating the minds of the public and the Government is the enormous 'slaughter of the innocents' reported year after year from every part of India. The infantile mortality (*i.e.*) the death-rate of infants under one year of age per 1000 live-births for the whole of India, according to the latest statistics available *viz* for the year 1930 was 180·83, the rate for 1929 being 178·39 and that for the previous quinquennium, 176·34. A comparison of the rate of infantile mortality for British India with that of a small number of other countries in the world will convince anyone that the problem calls for both urgent and concerted action.

COUNTRY.	Infantile death-rate per 1000 births (of infants under one year).
British India ...	181.
England and Wales ...	60.
Australia ...	47.
New Zealand ...	34.
Canada ...	89.
Union of S. Africa (White).	67.
Federated Malay States...	163.
Palestine ...	154.
United States of America.	64.
Japan ...	124.

There is no doubt that, during

* Being a review of the Annual Report of the Public Health Commissioner with the Government of India for 1930. Vol. I with Appendices. Price Rs. 4 or 7 s. 3 d. Publishers : Government of India, Central Publication Branch, Calcutta.

recent years, various official and non-official organizations have been devoting a good deal of time, money, and attention to the problem of reducing this terrible infantile mortality; but so far, these activities have only touched the fringe of the problem. The Public Health Commissioner with the Government of India in his interesting and voluminous report for the year 1930, observes :—" The enormous annual loss of infant life points to the urgent necessity for a wide augmentation of infant-welfare organisations working all over the country. There need be no cause of undue pessimism in this campaign. Even in England and Wales, the infantile mortality rate as recently as the 1891-1900 decennium was 153 per mille and only by continued and strenuous effort through the succeeding years has that rate now fallen to 74 in 1929 and 60 in 1930. It may and probably will take a long term of years to reduce infantile mortality rates in India to this wonderfully low figure; but there can be little doubt that similar effort in this country will eventually produce corresponding reductions ".

Next in importance is the maternity and child-welfare work. The maternal mortality rates in India show no decline, despite various efforts made in the training of midwives and providing skilled staff for maternity and child-welfare work. The confinements in hospitals are rapidly rising and people have begun to shake off their age-long scruples and superstitions and have learnt to appreciate the services of trained midwives. But, " unfortunately, hospitals and trained midwives are within the reach of comparatively few. The great majority of births take place in villages where hospitals do not exist and where trained midwives find it hard to settle and earn a living. It is the village conditions which create the real difficulty in reducing maternal mortality rates or in providing for skilled assistance for the time of childbirth. In the villages, the only help available in the majority of cases is that of the indigenous midwife, whose sole means of learning has been her experience ".

It is therefore imperative that the Dais in the villages should be trained; but the chief difficulty lies not in inducing the Dais to get themselves trained, but in finding the necessary staff to train them and the supervision and control of their work. This seems to be a stupendous task and as the Local Boards cannot afford to indulge in a huge expenditure of this nature, the local governments must come to their rescue and undertake the work themselves.

Another phase of maternity and child-welfare work to which attention must be devoted is the importance of ante-natal work in connection with maternity problems. Col. Russell lays stress on this point and says in his report alluded to above—"The supreme importance of thorough training in ante-natal work must again be urged upon all who have charge of the training of medical students or midwives. Ante-natal work may be called preventive midwifery. The good that can be done by such preventive work is incalculable. Even the humblest midwife can do a great deal to anticipate the disasters of abnormal and complicated deliveries ",

Coming to child-welfare work it must be said at the outset that, in India, it is closely allied to and associated with maternal-welfare. Child-welfare work here consists in spending money on welfare centres "which are a compound of dispensaries and milk-kitchens". The Public Health Commissioner's observations in this connection are noteworthy:—

"Viewing the country as a whole, whilst here and there one sees courageous efforts to carry out a considered policy, for the most part there is a great deal of wasted effort. The good will is there, could it but be better directed. Although the large voluntary societies, such as, the Indian Red Cross Society, are doing good service in organising and directing a considerable amount of voluntary work; their provincial branches cannot afford to employ trained personnel whose chief work would be to organise welfare work. Such a function belongs to the local governments. The usual reason pleaded for not making such appointments is lack of funds and it is in most cases a very valid one; but it is a fact that, for lack of competent direction, many provinces are not getting the full value of the money allotted to this work. Financial stringency makes it all the more imperative that money should be rightly and wisely spent in constructive efforts, and not in the form of charitable doles. Public money would be better spent, public interest aroused and public support gained, were there specialists in the subject working under the Directors of Public Health of the larger provinces. Madras presidency has shown a good example, but so far, other presidencies have not followed suit." A compliment, indeed to this benighted presidency!

We reserve further consideration of the subject for the next issue.

MUSIC AND HEALTH.

BY

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(continued from page 71, Vol. XI, No. 3, Mar. '33. issue of "Health".)

PERHAPS the first scientific observations on the physiological effects of music on the circulation of the blood, which partook of the nature of an experiment in the generally accepted sense, were undertaken by the French musician, A.E.M. Gretry (1741–1813), who in his *Lssai Sur La Musique*, mentioned the effects of music on the heart and circulation of the blood. "I placed," said he, "three fingers of my right hand on the artery of my left arm or any other artery in my whole body, and sang to myself an air, the tempo of which was in accordance with the action of my pulse; some little time afterward, I sang with great ardour in a different tempo, when I distinctly felt my pulse quickening or slackening its action to accommodate itself by degrees to the tempo of the new air."

Among the more modern experimenters in this particular phase of the influence of musical stimuli were Binet and Courtier who in 1895 conducted a series of experiments on the capillary circulation in the hand. They established the fact that purely sensorial excitations produced a marked effect on the amplitude of pulsation. Dissonances produced a greater effect of the same nature and sad music nearly always provoked a reduction.

It was found that the rate of pulse remained constant or increased, in the case of simple musical elements. Melodies produced an acceleration from 0 to 15. Finally, gay music produced an accentuation of dicrotism. Their findings are summarised in the following table :

MUSIC.	ACTION ON THE PULSE.	
	Before.	After.
Marche Triomphale, Tannhauser ...	84	84
Marche de Fauste, Gounod.	81	87
Marche Hongroise, Berlioz.	86·5	91·5
L'Epee (chant), Wagner...	69	70
La Chauvauchee (chant) Wagner ...	68	83
Printemps(chant),Wagner.	69	73·5
La Rencontre ...	68	84
Laisse moi contempler (chant) ...	73	83

In 1918 Hyde and Scalapino conducted a more elaborate series of experiments in the physiological laboratory of the University of Kansas in an effort to determine the influence of music upon electro-cardiograms and blood pressure. The object of these experiments, more specifically, was to ascertain the effects of different kinds of music upon the heart and blood-pressure in individuals who were known to have musical talent and who are fond of music. The experiment was also extended to those who were indifferent to music.

The cardiograms were recorded with the Einthoven string galvanometer, its sensitiveness being 1 cm. deflection per millivolt; the film speed was 2·5 cm. per second. The time marker recorded 1/5 second and lead 2 was adapted for comparison. for all of the records. The pulse and pressure were obtained with a Tycos and a modified form of Erlanger's sphygmomanometer, and the music was from Victoria records.

The pieces selected were (1) Tschaikowski's Death symphony, characterized by slow, tragic movements; (2) the Toreader from Carmon ; and (3) The National Emblem, a stirring, lively march by Sousa. The effects of other pieces of music had been tried, but the results seemed to indicate that the effects of those pieces were also familiar to the subjects, and were influenced by associative memory.

The data from subject "A" who was fond of music were checked with those of the other two subjects, but his being most complete were chosen by the experimenters for publication.

The experiments were conducted under fairly constant subjective and weather conditions and about the same hours of the day. The cardiograms pulse and pressure curves were secured before and immediately after and also from 5 to 10 minutes after the music had ceased. But while listening to the music, only the cardiograms were taken, because it seemed that the latter were affected by manipulations necessary to secure blood-

pressure records. For the experimenters' own data, the subjects' cardiogram, pulse and presssure were obtained, without the influence of music, at different hours of the morning, the forenoon being the time during which all the tests were made. It was found that ordinarily the pulse-rate and pressure varied somewhat during the forenoon as shown in Table 1.

Time.	Pulse per Minute;	Systolic per M.M.	Diastalic per M. M.	Pulse pressure per M.M.
10-35	84	112	76	36
11-15	82	114	76	38
11-30	78	114	74	40
11-45	76	114	72	42
12-00	72	114	74	40

From a study of the table we learn that while listening to the symphony, the average effect is a slight decrease, if any, of the "P. P." wave, and therefore a slight increase relatively in the pulse rate, and also that the amplitude or E. M. F. of the "R" wave is increased. We find also that from 2 to 10 minutes after the music has ceased, the pulse rate and the E. M. F. have increased considerably, but the systolic and pulse pressure have fallen.

Consequently the minor tones of the symphony records caused an increase in cardiac activity and action current, but a fall in blood pressure is probably the result of psychic or reflex inhibition of the vagus nerve and vasomotor centre. The shortening of the "P. P." wave is mainly due to the decreasing of the "T. P." wave, or pause of the cardiac cycle.

The Toreador from Carmen produced a different set of cardiograms. Here the pulse rate was accelerated and the E. M. F. or amplitude of the "R" wave became less as soon as the song was heard. This is graphically shown in the decrease of the "P. P." and the "T. P." phases, and the height of the "R" wave in cardiograms obtained while listening to the song. The after-effect was increased systolic and pulse pressure and pulse rate, but decreased action-current. It seems, therefore, that this kind of music had a stimulating effect upon the circulation by increasing the blood pressure and pulse rate while lessening the action-current of the ventricular contraction. This change may be due to reflex action of the accelerator nerve or possibly inhibition of the vagus.

The effect of the spirited tones of the National Emblem was a slower pulse rate, a longer pause or "T. P." pressure but also the action-current of the ventricular contraction. This sort of music had, evidently, a stimulating effect on the vagus.

Towards the end of the last century, the Italian physiologist Patrici conducted a series of experiments on the influence of musical stimuli on the circulation of blood in the brain. A boy named Emanuel Favre, age 13, of Bramans, in Savoy, while acting as an assistant to his employer, a wood-cutter was severely wounded in the head by a glancing blow of an axe. Through careful treatment in the hospital, he was restored to health, although the wound still remained more than three inches in length, cleaving the bones of the skull for the entire distance.

When the wound was finally healed, the bones did not fully cover the exposed brain, in consequence of which, changes in the circulation of the blood in the brain could be detected accurately. The boy himself was docile and intelligent. The points that Patrici set out to ascertain were, first, whether the circulation of the blood in general is influenced by music; then whether that of the brain is more or less influenced than that of the body.

For determining the progress of the circulation, an apparatus was adopted consisting of a closed cylinder of glass for holding the arm in water, and a registering apparatus connected with the needle of a galvanometer. For registering the pulse in the brain, a cap of gutta-percha was made with an electrical connection capable of showing the slightest modifications in volume or pulsation.

In the record of cerebral pulsation, each beat appeared as a line about 7 millimeters in length, and through natural rhythm of the pulse, the lines fell into groups containing each one from five to six pulsations, corresponding to a complete inspiration and expiration. Any sudden change in the volume of blood took the form of large oscillation in the path of the lines. Great care was taken to discriminate between changes of the current due to other causes than those of music, and to this end, preliminary observations were made. For example, it was observed that the pulsations took a higher range after a musical note, and the same result followed the very same repetition. It was also found that the increase in the current was greater with a high note than with one of lower pitch.

It had already been claimed by former observers that any excitation of the brain by musical sounds increased the pulse in other parts of the body. Accordingly, two tracings were made simultaneously, the one, of the cerebral pulse and the other, of the pulse in the arm. The tracings were dissimilar in a marked degree, that of the arm being merely a toothed line, without any oscillation, while the cerebral pulse showed a larger amplitude of vibration.

In repeating the experiment already made with a single tone, three phenomena were observed:

(1) The volume of the pulse in the arm was elevated in the same proportions as that of the brain.

(2) In the second case two tracings comported themselves inversely. The convexity of the cerebral curve was accompanied by a concavity in that of the arm. Evidently while the brain circulation expanded, that of the arm contracted. In the former case there would seem to have been a general augmentation of the pulse, shared alike by the brain and arm. In the latter the blood rushed to the brain in consequence of some contraction in the arm and the peripheral circulation.

(3) Less easily explainable by pure mechanical law was the third combination in which the volume of the peripheral circulation remained constant while nevertheless, that of the brain was much increased by the incitation of a musical sound.

For determining the influence of melodic stimuli recourse was had to the performance of simple music. Five tracings were selected, taken at considerable intervals of time, and showed

unmistakably that an excess of cerebral circulation takes place under the influence of music, more or less marked according to the nature of the melody, whether a pathetic air or a martial tune, and a movement slow or rapid. Every increase in the pulse was related to an acoustic incentive, and not to an influence of an extraneous emotion. The diverse amplitudes of the oscillations cannot be employed as determinants of the quality of the music, but depend mainly upon the relative strength or the intensity of the sounds, with which these experiments are not peculiarly concerned.

In the fifth tracing (where the pulse of the brain was considerably augmented by the incitation of C-4, while that of the arm diminished) all the curves showed a gradual subsidence, as the music progressed from a high point reached at the first incitation. The subsidence, however, seemed to have been of a periodic nature, for in several cases it happened that there was a fresh augmentation just before the end of the air.

(*To be continued.*)

THE EFFECTS OF CIVILIZATION ON MANKIND

BY

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In the beginning the man, like animals, was naked, without any protection from the sun or the rain, and from heat or cold. But due to his superior mental faculties, he began to protect himself from the hardships of climatic changes by covering his body and building huts. There is a gradual change from the straw apron of the primitive man to the up-to-date apparel of the modern gentleman; and from the most primitive hut to the modern apartment house. The invention of glass completed man's protection against nature. The result is the retreat of man from light into darkness, and out of the ventilated atmosphere into stagnant air.

Modern Clothing:—The light-particularly ultra-violet rays — exerts a beneficial effect on the body by increasing the resistance power of the skin to various diseases and by acting as a tonic to the body by way of circulation of blood from the skin to the whole system. The lack of ultra-violet leads to such diseases as rickets, tetany and osteo-malacia. Light starvation favours also certain skin diseases as psoriasis, eczemas, acne and lupus. One important function of the skin is heat regulation. But our habits of living in closed rooms and of dressing in heavy and tightly fitting garments, puts this mechanism out of work. Consequently we are unable to withstand even moderate variations of temperature, catching cold with the slightest exposure. Fear of exposure and fashion slavery have led us to

* Abstracted from "*Environment, Habits and Health*" by Albert Bochem, Ph.D., Archieves of Physical Therapy, X-ray, Radium,

overdress ourselves with the result that cooling mechanism ceases to work, and prostration and fatalities occur. Even the greatest extremes of heat and humidity could be endured out-doors with loose, light, and transparent suits, and indoors part of the body exposed. Our clothing prevents the evaporation and its coolng effect and causes excessive sweating. Such a moist skin, lacking proper acidity, not exposed to light, leads to skin diseases, as we observe particularly in the axillæ, the groin and between the

Dress suited and unsuited for the tropics.

toes. In our mode of clothing, according to fashion, we are interfering with the normal temperature and cause abnormal conditions which result in inconveniences and diseases.

Modern diet:—The civilized man is accustomed to prepare the food by use of heat, as in cooking, baking and frying. This kills the bacteria and parasites in food, reducing the chances of intestinal diseases and epidemics. It also makes the food more digestible and palatable. But, what are the dangers of cooked foods! The palatability and softness of cooked food induce man to eat much more than is needed for the maintenance of the weight of the body and the performance of its function. Over-eating leads to over-weight, which is associated with a high death rate, and frequently the deciding cause is diabetes. Taking excess of starches and sugar predispose to skin diseases and joint troubles. The modern food needs very little chewing and hence a healthy massage to the teeth and gums is lost. The soft food sediments between the teeth, undergoes bacterial decomposition and cause caries and tooth-ache. The soft food being all absorbed lacks in the stimulation of the peristalsis of the intestinal tract, causing constipation with its accompanied harm. A diet of this nature will be also deficient in minerals and vitamins. The calcium and vitamin deficiency are responsible for many diseases to which mankind is a prey. Starches, sugars and cooked food contain no vitamin. Fresh milk, raw vegetables, fruits and eggs supply a lot of these needs.

Open air and sunshine are the enemies of Consumption.

Over-crowding :—The civilized man has given up the life of his fore-fathers, living in open and fresh air in villages. The people are crowding in towns and cities, in trams and buses, in schools and churches, in cinema theatres and lecture halls. A tendency towards greater privacy is noticeable in listening over the radio and lastly the coming television may have a similar effect. All this means shutting ourselves from fresh air and light, and infecting each other with deadly diseases on account of close proximity. By civilized mode of life we are going against the dictates of nature and doing a great harm to ourselves. Medicines nor the labours of the health departments will be of little use to prevent diseases, unless we set right our own faults and defects.

"ITCH" (SCABIES)

HOW CAUSED, WITH A FEW HINTS ON ITS PREVENTION AND CURE.

BY

DR. K. G. MENON,

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ONE of the most common and apparently intractable ailments to which "flesh...or rather the skin...is heir to," is the common "itch" or *scabies* as it is medically termed. It is so wide-spread in our country, especially among the poorer classes, that it is difficult to find even a few among them free from the disease at one time or other in their life.

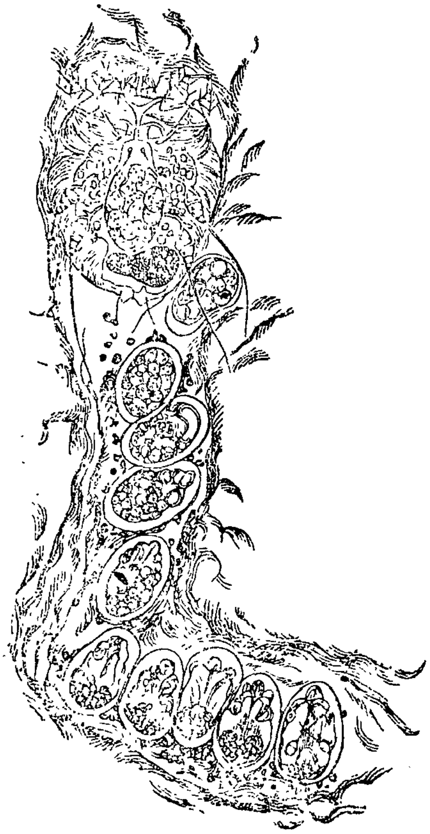
The disease is recognised as due to the bite of a certain kind of 'mite'... a 'spider-like' insect known as the 'acarus', the female of which is generally responsible for the cause and spread of the ailment. The pregnant female acarus after biting the skin makes a small burrow in the upper layers of the skin and lives there laying about 15 to 20 eggs, which within 5 or 6 days hatch to discharge the young ones, which in their turn infest and infect the skin while propagating their species. The parasite infects not only the skin but the bedding and clothing of the patient so that a recognition of this habit and habitat of the "mite" is quite essential, as in the prevention and cure of the disease, the effective sterilisation of the bedding and clothing is a necessary concomitant in the treatment of the ailment itself.

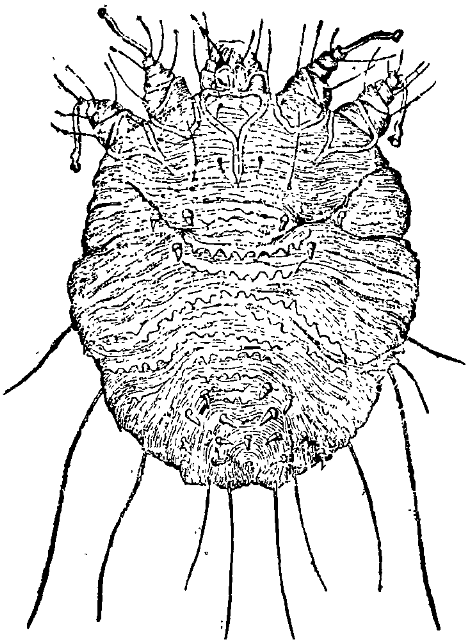
The bite of the mite causes intense itching and the scratching resulting therefrom helps to spread the disease to other parts of the body. The places of election for the itch are the skin between the webs of fingers and sometimes the toes, the wrists, front of armpits and breasts especially of females, the buttocks, sides of thighs and the private parts. It is worthy of note that the face and head escape from the ravages of the disease while very often the neck and even the back of the chest are not affected. The mite is more active when the

body is warm, in bed, and hence the intense itching during night, though in our hot country the itching is no less common during the day time.

Though in itself the disease is not a fatal one, the many complications resulting therefrom are sometimes serious and cannot well be over-looked. The intense itching and scratching especially during nights, keep the sufferers "awake" throughout the nights and the long periods of sleeplessness thus engendered, make the patient weak and emaciated. Boils sometimes appear in crops and a resultant continued fever debilitates the patient still further.

Now as regards the treatment, it resolves into (1) opening of the 'burrows' and cleansing of the skin (2) use of some parasiticide to kill and eradicate the mite and (3) effective sterilisation of the clothing, bedding etc, used by the patient. In fact, the 3rd factor might be construed as the more important—though alas! most often neglected—and great stress is to be laid upon this, as on the observance of this, depends the prevention and effective cure of the disease.





Female itch parasites.

The impression that the disease is due to impurity in blood is however not true. It is just the other way, in fact, in as much as blood gets impure from the ravages of the disease, and any blood tonics in order to be effective need be taken only when the "itch proper" is cured. Again, in no

other disease can cleanliness and neatness be more effective than in the prevention and cure of this dirty disease.

A thorough scrubbing of the affected parts therefore, with a brush, and a hot bath thereafter, lays open the burrows and the insects to the easy action of any medicine thereafter applied. "Sulphur" is still the main stay in the treatment of the disease; but a judicious application of the ointment is necessary in order that it should be effective. A prolonged and haphazard use of the drug only sets up an irritation of the skin, sometimes too difficult to cure.

Hence, after the above bath and drying of the skin, the ordinary hospital sulphur ointment, mixed with a little cocoanut oil (preferably made from frying the milk of the cocoanut) is smeared well into the affected skin and the patient allowed to expose himself to the sun for as long a time as he can bear. He must thereafter have another bath using some antiseptic soap such as Neem or Carbolic and brush. The patients' clothing and bedsheets used over-night and till the bath, are meanwhile put in a drum of hot water and allowed to boil after which they are washed and dried in the sun, before use the next day. The cot and mattress may also be put in the sun before further use. This factor is most important in the prevention of spread of the disease as already mentioned.

The above line of treatment, of the skin, bedding, clothing etc. is to be carried out most carefully, with scrupulous attention to details, for 3 or 4 days continuously, and at most not more than a week will be necessary to effect a radical cure. Fresh air, proper exercise, good food and regular habits coupled with some good "pick-me-up" will no doubt accelerate the cure.

PERSONAL HYGIENE.

BY

N. RAMAKRISHNAN, *Vellore.*

(continued from page 212, vol. X, No. 9, September '32 issue).

Food :—Let us now discuss the next item and see what part it plays in the maintenance of one's health. Everyone knows that food is quite essential for our very existence. But all do not know what kind of food to eat, how to eat, when to eat and so on and the following simple rules will answer the above questions in detail ;—

(1) Eat always fresh, clean, simple and wholesome food and never allow flies to sit on the same for, fly is the carrier of many dangerous diseases.

(2) Have sufficient, well-balanced and nutritious diet, for it is necessary in building up your health and strength. Faulty and improper diet is responsible for many a disease. The articles of food that are recommended are, wheat, rice, dhal and other cereals, green vegetables, meat, fish, milk, nuts, etc. Milk is the perfect food for, it contains

almost all substances that are essential for life.

(3) Have variety of food stuffs and include green vegetables in your daily food. Vegetable food must form an important part of a person's diet, for it builds up health and strength, prolongs life, purifies the blood, helps in eliminating waste from the system and supplies the necessary materials for the bodily and mental development. Percentage of death is found to be less among the vegetarians than among the non-vegetarians.

(4) Take two meals a day, say at 11 A.M. and 8 P.M. Youngsters may take three meals a day for, their power of digestion is strong. Old people must take only one meal a day and take some light food during night for, their power of digestion is weak.

(5) Never stuff your stomach, as over-eating is more responsible for many a malady than under-eating.

(6) Eat slowly and chew every morsel of your food thoroughly for, proper chewing is conducive to proper digestion and assimilation.

(7) Have cheerful and peaceful mind during eating, as the influence of mind has much to do on digestion. Eating with anger, worry, anxiety etc., upsets digestion and results in other diseases.

(8) Make it a duty to take meals at regular hours as untimely meals are productive of many diseases, such as paralysis, diabetes, etc.

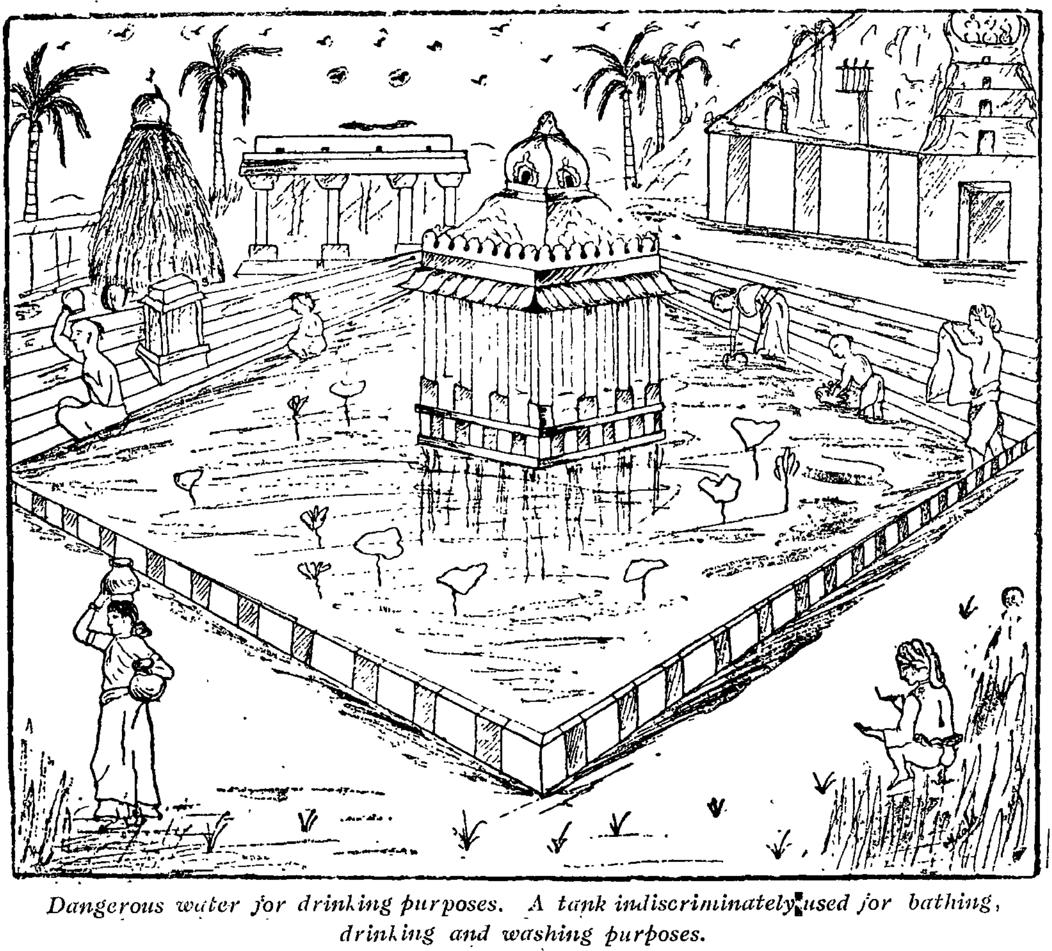
(9) Avoid coffee and other harmful stimulants.

(10) Eat only when hungry.

Water :—It is a pity that many do not realise the advantages of drinking copious water daily. It is an established fact that nearly two-thirds of the weight of the human body is water. A man may live for a few weeks without food, but cannot live even for a few days without water. Great importance must be attached to drinking plenty of pure water daily. By "plenty" I mean that at least five tumblers of water a day, one on rising in the morning, one before meal, one between the principal meals, one before night meal, and the last just before going to bed. Only a little water must be taken during meals. There are many reasons why good quantities of water are needed for our body. The first and most common reason is that it is Nature's best drink for quenching one's thirst. Secondly, water regulates the bodily temperature by distributing heat to all the parts of the body and in removing the excess of heat through perspiration. Again water is the best and safest remedy in eliminating the waste matter from the system and in assisting the process of digestion. Water purifies the blood and keeps the skin in a healthy condition. Another thing which should receive careful attention is that the water used for drinking purposes must be scrupulously clean for, impure and defiled water is the direct cause of many dangerous diseases, such as cholera, poisonous fevers, dysentery and a host of other diseases. If you are not sure of the purity of the water, the safest course is to boil it and then drink. Boiling destroys all germs contained in water. All other drinks such as wine, liquor, coffee, tea, etc., should be avoided as they have very harmful effect upon the human machinery.

Air :—Next, but more in importance,

comes air. Even an ignorant person is aware of the fact that air is absolutely necessary for the very existence of every living being, including trees. We may live for a few days without food or water; but our life becomes extinct in a few minutes without air. We should, therefore, try to secure a good quality and quantity of the same. It is a matter for great pity that many of our fellowmen spend a major part of their time in rooms with closed windows, in factories and in other public places without realising the consequences of breathing foul and insufficient air. The long life of our forefathers is mainly attributed to spending much of their time in doing out-door duties, whereas premature death among the present generation is attributed to spending their time in ill-ventilated offices, factories, classrooms, theatres, public associations and so on. This is the very reason why consumption, the King of Diseases, is rapidly spreading all over India.



Dangerous water for drinking purposes. A tank indiscriminately used for bathing, drinking and washing purposes.

Pure and free air does wonders in preventing and curing many chest and lung diseases, effecting the good circulation of blood, beautifying the skin, strengthening the muscles and nerves, refreshing the mind and body and in inducing good sleep. Fresh air is the natural tonic. Without fresh air, health is unattainable. Everybody should therefore try to spend as much

time as possible in free and open air and have the windows of the rooms and halls in which they work and sleep wide open so as to allow free air to enter in.

Exercise :—The health of a man depends upon food and exercise. By exercise, I mean, not only physical exercise, but mental exercise as well. It is an undisputed and an undenied fact that exercise has a specific effect upon the human system.

Physical exercise stimulates and develops the muscles, expels the waste products from the body, invigorates the nerves and the skin. Exercise again helps a man in absorbing more oxygen thus strengthening the lungs and the heart. Besides this, exercise quickens the circulation of the blood stimulates appetite by helping the digestion of food and causes sound sleep. In short, exercise tones up the entire system.

Exercise must be taken in the open air as far as possible. Where it is not possible, it should be taken in well-ventilated rooms or halls.

Physical exercise may be divided into *muscular* and *breathing*, the latter being particularly useful not only in preventing and curing the respiratory diseases, but in strengthening the lungs and expanding the chest.

For the benefit of the readers, I would recommend the following few exercises, among the many :—

Muscular :—(1) Stand erect with feet a few inches apart. Bend the trunk towards your right as far as you can. Resume your position. Then bend to the left as far as you can and return to your position. Repeat each movement about a dozen times. This simple exercise is good for the muscles and is useful in keeping the body active and strong.

(2) Stand erect with the feet a few inches apart. Raise your hands up. Bend forward and try to touch your toes with the tips of your middle fingers. Then resume your original position. Then bend towards the back as far as possible and again resume your position. Repeat these bends about a dozen times, taking care at the same time that you do not bend the knees. This exercise is very valuable in warding off many liver and kidney ailments.

Breathing :—The chief point that should be borne in mind when taking breathing exercises is to breath only through the nose, with the mouth firmly closed.

(1) Breathe in slowly and fill the lungs as completely as you can. While breathing in, slowly raise your arms perpendicularly up. Then breathe out slowly. While breathing out, lower your arms slowly. Repeat this exercise about a dozen times.

(2) Close your left nose and breathe in slowly and deeply through the right nose. Then close the right nose also and stop the breath for a few seconds. Now breathe out slowly and completely through the left nose by closing the right one. Take this exercise vice versa and repeat them alternatively for about half a dozen times.

Now, coming to mental exercise:

That a proper mind is required for a proper working of the body is a fact which nobody can deny. We have heard of the saying that "A vacant mind is the devil's workshop" which is interpreted to mean that a lazy and idle mind is likely to give room for

committing mischief of all sorts thus retarding the moral and physical growth. It behoves everyone therefore to give proper and sufficient exercise to the mind by engaging the same towards different but useful purposes of life. Attention to little as well as big affairs of life is the natural quality of the mind which leads to perfect happiness and satisfaction.

MASTICATION AND DIGESTION.

In the minds of many people, digestion is a process which takes place only in the stomach. There are, however, two other important sites in which it occurs—namely, the mouth and the small intestine. Let us consider this month the first stage of digestion. This takes place in the mouth and is sometimes called salivary digestion. It is a sadly-neglected stage by most individuals.

Let us briefly consider what takes place when food is first introduced into the mouth. First of all the factors in this process are thirty-two sound and healthy teeth, the tongue, the palate, and other structures of the buccal cavity, together with a liquid, the saliva. Should any of these be imperfect, the first stage of digestion will not be thorough or complete.

Take, for instance, the teeth. Few people to-day have a perfect dentition. Some teeth are decayed and painful, causing mastication to be avoided in their vicinity. In other cases, teeth are missing and the food is therefore not ground down and finely divided as it should be before being passed on to the stomach.

The saliva is a clear, watery fluid containing an element ptyalin, which acts upon the starches present in food. For this action to be complete, the food to be digested must remain in the mouth for a considerable time and come into intimate contact with the saliva. This means thorough mastication. Most people, however, bolt their food long before it has a chance to be acted upon in this situation. Thus the first stage is incomplete and the stomach and intestines are not given a fair chance.

For sound salivary digestion, you need strong, healthy teeth and gums. You must visit your dentist regularly twice a year to keep your mouth in order. Decayed teeth and tender gums must be treated and lost teeth replaced by artificial ones.

Also mastication must be performed for a much longer period than is usually the case. A good plan is to chew your food for at least twice as long as you are accustomed to do. It is an advantage to eat food that is dry and coarse, as this needs thorough mastication. Such food aids greatly in keeping the teeth and gums healthy. Wholemeal bread, toast, and fruits such as apples are examples.

A faulty first stage of digestion can often be traced to be the cause of obscure diseases. Remember that thorough mastication has given rise to improvement in so many conditions that it was almost looked upon as a "cure all" at one time by certain physicians. So if you would be well, remember to chew your food thoroughly and give your stomach a chance, for the stomach has no teeth.—*Good Health.*

DOWN WITH THE DUMMIES.

There is a solid consensus of opinion among all medical experts that the "dummy" is not only an entirely unnecessary component in the equipment of a healthy baby, but an actual source of many dangers. As a result of constant sucking of a "dummy" or any substitute, such as thumb, during the period of active development, the shape of the mouth and the alignment of the teeth become permanently altered in faulty directions. Faulty development interferes with mastication of food, with articulation, and aesthetic appearance.

The "dummy" in addition is often a source of infection by conveying dirt into the mouth. For instance one often sees a baby with a "dummy" in its mouth which has just been picked off the dirty floor of a bus, tram, or railway carriage. Take another instance—mothers and nurses may have defective teeth, and they, unmindful of the consequences, often suck the "dummy" to clean it before giving it to the baby. Is it any wonder then that there are many diseases among young babies when this sort of thing is prevalent? Further the "dummy" encourages mouth breathing and is frequently the cause of adenoids and enlarged and unhealthy tonsils. If a child goes to sleep with a "dummy" in his mouth, an event which often occurs, the "dummy" drops out and the mouth remains open.

So much for the physical side of the matter. On the moral side surely it cannot be good for a baby to have its every cry pacified by means of the "dummy," instead of having its troubles investigated and appropriately met? This point is well worth bearing in mind.

If parents realized all the troubles, the many evils and bad habits which the seemingly harmless little "dummy" can produce they would join wholeheartedly in the cry, "Down with the Dummies."—*National Baby Week Council.*

SOAP AS A DISINFECTANT.

It is a common knowledge that soap and water help to wash germs away. But what is not generally known is that even dilute solutions of soap and water quickly kill most germs. Soap compares very favourably with many antiseptics which cost much, smell still more, and are advertised as the crowning achievements of modern science.

During the Great War, infected eating utensils were suspected of promoting epidemics of pneumonia, bronchitis, and other diseases of the respiratory system. How to sterilise such utensils? Experiments showed that ordinary soap solutions (about ½ per cent.) for washing dishes kill the germs responsible for influenza and pneumonia.

Experiments with chemically pure soaps and with different commercial soaps show that it does not matter what particular brand of soap is used; they are all powerful germicides. It is not, therefore, necessary to buy a a special, costly brand of soap in order to secure a good antiseptic. The concentration of soap in ordinary thick

lather used in washing the hands is about 1 in 12. Only one tenth of this concentration is strong enough to kill germs. The germs that quickly die in soap and water include those responsible for syphilis, gonorrhoea, diphtheria, pneumonia, influenza, meningitis. Typhoid bacilli are much more resistant.

Time as every ambulance worker knows is often a vital factor in fighting disease. And the housewife who bestirs herself with soap, scrubbing brush and pail of water instead of waiting with folded arms for the official disinfector, will have killed a goody proportion of dangerous germs before he arrives.—*First Aid.*

THE BEST TONIC—COLD WATER.

In making practical suggestions for the bath, Dr. Curran Pope, in *Physical Therapeutics*, calls attention to the great adaptability of water to the various needs of the body. Water has a wide range of temperature, from 32° F. as ice, to 212° F. when it becomes steam. It can readily be seen what an enormous opportunity is offered in its application to the human body; both for general and local effects.

Water is very adaptable. Within a few seconds, great variations of temperature, pressure and the extent of application, may be obtained.

The best physician, says Dr. Pope, is he who can call into action the healing forces that lie within the patient's body—the *vis medicatrix naturæ*. Nothing is more potent for this purpose than hydrotherapy, especially cold water treatment. Some of the benefits of this form of therapy he describes as follows:

The daily use of the cold shower, preceded by a hot cleansing shower, keeps the arteries flexible, retards old age and renders the individual more active and freer from disease.

Cold water is a tonic to both the central nervous system and the sympathetic system. It develops a flexibility of the vasomotor system and skin. Sedentary persons should avail themselves of the many advantages of the cold bath.

Cold water treatment is especially valuable for women. The cold bath gives nerve tone, combats nervous weakness, and overcomes the unwholesome tendencies of indoor and sedentary life.

Baron Liebig seventy-five years ago observed that "cold air, cold water, and exercise habitually employed are the most powerful of all means of stimulating tissue activity".
—*Good Health.*

WHO LIVES WELL?

He who meets sorrow without bitterness and is not coarsened by prosperity, who is defeated but fights on, or is triumphant but remains humble, who carries the hopefulness of youth into the deepening shadows of age, and when the sun is setting is confident of the morn—this is the man who has lived well. (The N. A. R. D. Journal).

AMERICAN MEDICINE.

HEALTH TIT-BITS.

Foam Baths:—These valuable baths are of fairly recent origin. The surface of the body is subjected to the contact of innumerable air-bubbles at a raised temperature. The water generally contains some substance such as Quillaia bark, and the foam which looks like soap-suds, is made by pumping air into it. The body is immersed in this.

Mud Baths:—Ordinary mud is not used for these baths, but a special dry radio-active mud which comes from volcanic regions. Just before use it is heated and moistened into a paste, and then thickly applied to the whole body or to any part of it needing treatment. The patient is wrapped in towels or sheets and remains like this for from half an hour to two hours. The mud is then washed off with a spray and the skin dried. Mud baths are beneficial for certain irritating skin affections and rheumatic or painful joints.

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Cremation vs. Burial:—Cremation is gradually becoming more popular. In time it must, of course, become the more usual procedure, for already we are over-buried and large portions of ground will not be at our disposal. Economy of space will be required.

Burial is unhealthy; it is also morbid. Relations still love to linger beside a grave, believing that, in some obscure manner, it shows a respect to the departed. They want some tangible memorial, where they may lay their withering wreaths and shed their tears. The effort harrows them, but for all that they take a certain delight in being harrowed.

A grave is only a spot over which we can shed a few more tears. It is a meaningless square of earth, for the beloved is not there, and never has been there. We would not wish that they should be. To my mind, the ashes cast to the four winds of Heaven are altogether sweeter. They do not ask for their toll of tears, for their harrowing memories. They ask only to be remembered with smiles—the better way.

" And, what is more, they are safe." The germs are dead, the destroying is utter, and any chance of handing on a dread legacy is purged by fire.

It is far fairer to the living—(Pearsons).—Extracted from *The Bombay Chronicle.*

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New Zealand Honey:—The outstanding value of honey as an energising food is too well known to need stressing. It presents carbo-hydrate material in its most assimilable form, ready for immediate absorption in the upper intestinal tract.

The demand for honey in this country far exceeds the home production, but fortunately ample supplies are available from our Colonies and over two-thirds of the total honey imported comes from the clover pastures of New Zealand, under the official trade mark " Imperial Bee." The production of New Zealand honey is under the supervision and control of the Government, and the exports thus bear the official guarantee of purity and excellence of packing. This honey is in the granulated form, and undergoes no heat treatment in its preparation,

thus preserving all the dietetic attributes of the natural lime product.

Honey contains nearly 80% of mms. saccharides, chiefly dextrose—the ultimate dialysable form of carbo-hydrate digestion—and is therefore particularly valuable for children, especially the nervous types, and in cases of amylaceous dyspepsia it can with advantage replace a substantial part of the starch factor in diet. Imperial Bee New Zealand Honey represents this valuable food in a pure and untreated condition, and a more extensive use would be a great advantage in our national dietary and a valuable support of "The Buy British" slogan.—*Medical World.*

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Septic Wound:—The heat, redness and throbbing of a septic cut is really the effect of the battle being waged between the germs on the one hand and the tissues on the other. The part becomes inflamed. Inflammation means the pouring out of white cells from the blood, and the attraction to the injured area of other cells whose function is the same as that of the whites, i.e., to kill and digest the germs.

The future of the wound and often of the patient depends upon whether the defensive bodies are successful in their task. The result of the conflict drains away as pus, and if the area of warfare is a circumscribed one it is known as an abscess.

The important point is to kill as many germs as possible and so lighten the work of nature.

There are certain substances, such as tincture of iodine, which kills germs when applied to a wound, without at the same time damaging the surrounding structures; in all cases it is essential that some application of this nature be used at the first possible moment.—*Copartnership Journal.* Extracted from *First Aid.*

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A Novel Travelling Baby Clinic:—An important and progressive step has been decided upon by the Mothers and Babies' Health Association of Adelaide, Australia, which recently planned to start a Travelling Baby Health centre.

As a preliminary, the South Australian Railways Commissioner was approached and his co-operation enlisted. A railway carriage was made available and plans prepared for altering the interior of the carriage. One half of the car is being fitted up as a Baby Health Centre and the other half as living quarters for the nurse—the latter to include cooking arrangements, sleeping berths, shower bath, ice chest, electric fans, etc.,

The first tour has now been arranged. The car will keep to the broad gauge railway line, and will travel in the middle north. The tour is arranged so that the Sister-in-Charge will be able to see the babies every two months. The Association realises that this is not so good as having a separate nurse for each district, but as that is impossible for financial reasons, this alternate scheme is regarded a the best substitute. It is hoped that when times improve many of the larger districts will be able to support a baby welfare nurse of their own and the train can then travel to other districts.

Much time and thought were devoted to deciding the routes and stopping places for the train, The Association

would have liked it to travel in Northern Australia as well, but it was felt that, owing to the small number of existing country centres the more thickly populated districts should first be served, so as to give a maximum service at a minimum cost.

Similar schemes are in operation in other parts of the world. In Australia itself, Queensland and New South Wales have already got their Railway Baby Clinics, which are doing very fine work in the out-back country.—Extracted from "*Mother & Child*".

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Face Powder and Ancient Greece:—That white face powder was produced in ancient Greece 400 years before Christ by methods identical with contemporary processes has been established at Princeton University by a chemical analysis of the first white cosmetics ever recorded, states *Drug and Cosmetic Industry*. The face powder was found in a woman's grave at Corinth by Professor T. Leslie Shear, of the Department of Art and Archæology of Princeton University. Discovered in a small terra cotta vanity box in a tomb which also contained a silver coin and several vases during an archæological expedition in 1930, the powder was brought back to Princeton by Dr. Shear, and has been analysed by Professor William Foster of the Princeton University, Department of Chemistry. The cosmetics were found to be cubes of carbonate of lead which had been manufactured by the Greeks through basic methods similar to those to-day used in the production of white lead. The discovery of the white skin preparation by Dr. Shear is the first ever recorded.—The Journal of "*Ayurveda*"

BOOK REVIEW.

Rhythmic Exercises.—By Shri Yogendra. Revised and Enlarged Edition 5th Thousand, Published by Yoga Institute, Post box 481, Bombay. Price Re. 1 only. Can be had also of Messrs. Srinivasa Varadachari & Co., Printers and Publishers, Mount Road, Madras.

This is a revised and enlarged edition of his most popular work on physical exercise by Shri Yogendra. To those who are fed up with half-informed exploiters and their books on physical culture, muscle-cult and body-building exercises, this book supplies an ideal course of daily exercises based on the rhythm of breath. It is popular but scientific in its treatment and advocates an absolutely *new method of exercise* by showing just exactly how to harmonize the rhythm of breath with each movement of the body. As the author aptly says, it is meant "for people who love health but hate philosophizing." The work is divided into three chapters: Essentials of Physical Culture, Fifteen Rhythmic Exercises, and Art of Relaxation. It is worthy of being introduced as a text on physical culture in all such schools and colleges where drill is compulsory. It will be to the advantage of every one of our readers to secure a copy of this highly practical work on exercise. With 19 beautiful illustrations and an exquisite get-up, as a work of Art, its cost is comparatively trivial.